

**CITY OF WARWICK, RHODE ISLAND POLICE II PENSION  
FUND**  
ACTUARIAL VALUATION AS OF  
**JULY 1, 2015**

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## **DISCUSSION**

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## **I. Purpose and Summary**

This report presents the results of our July 1, 2015 actuarial valuation of the City of Warwick, Rhode Island Police II Pension Fund. The valuation was performed at the request of the City of Warwick for purposes of determining the employer and member contribution rates for the City's fiscal year beginning July 1, 2016.

The total contribution level for the 2016-2017 fiscal year is 42.63% of covered earnings as compared to 43.68% of covered earnings determined by the previous valuation. In accordance with the City's ordinances, two-thirds of the cost (or 28.42% of earnings) will be met by the City, with the remaining one-third (or 14.21%) contributed by covered active members.

The member contribution rate of 14.21% is a blended rate between Tier I and Tier II members where the difference between the two is a constant 3.77%. Based on this difference and the size of the current population of active members, that produces a member contribution rate of 14.75% for Tier I members and 10.98% for Tier II members.

The development of the valuation results is shown in Tables 1 through 9 and is described in more detail on the following pages.

## **II. Membership Data**

The City furnished data for active and retired members as of December 31, 2014. The data was projected to July 1, 2015 for valuation purposes reflecting anticipated age, salary and benefit increases, with adjustment due to data questions response. Although we did not audit this data, we did review it for reasonableness and consistency with the data collected for the previous valuation (prepared as of July 1, 2014). Table 4 provides a distribution by age and service for active members. There were three inactive, non-retired member entitled to a future retirement benefit or a future refund.

## **III. Plan Provisions**

A summary of the principal plan provisions recognized for purposes of the valuation is provided in Table 9. There were no changes to this plan adopted since the last actuarial valuation.

#### **IV. Assets**

The City of Warwick furnished audited financial statements for the fiscal years ending June 30, 2015. Tables 3a, 3b, and 3c provide information about the composition of plan assets and the development of valuation assets.

The asset value used in the determination of the annual contribution level is set equal to the market value of assets, adjusted to phase in the difference between actual and expected investment return over five years, at 20% per year. As shown in Table 3c, the market value of assets on June 30, 2015 was \$178,425,137 while the valuation assets were \$175,253,154, or 98.2% of the market value.

As shown in Table 3b, the dollar-weighted rate of return on the market value of assets for FY 2015 was 2.31%. This return is net of all investment and administrative expenses.

#### **V. Actuarial Methods and Assumptions**

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

There were no changes to the assumptions and methods since the last actuarial valuation. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of the City of Warwick, Rhode Island Police II Pension Fund.

**VI. Funding Policy**

The plan is funded on an actuarially determined basis in accordance with the City’s pension ordinances. The contribution amount determined by the July 1, 2015 valuation is projected with assumed base pay increases (3.50%) to determine the statutory contribution level for the 2016-2017 fiscal year.

**VIII. Analysis of Changes**

The plan experienced an actuarial gain of \$1,854,046 over last year, which is relatively small in comparison to the size of the liabilities. The largest source of the gain was favorable experience on the actuarial value of assets.

The funded ratio increased from 87.6% to 89.1%. The funded status measure alone is not appropriate for assessing the need for future contributions. Also, the funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations

The following shows a reconciliation of the contribution rate from the prior valuation to the new rate set by this valuation.

|  |               |
|--|---------------|
| Contribution rate set by prior valuation   | 43.68%        |
| Demographic and payroll changes            | (0.01)        |
| Asset loss/(gain)                          | <u>(1.04)</u> |
| Contribution rate set by current valuation | 42.63%        |

**VIII. Future Expectations**

With the Tier II benefit provisions for new hires, the normal cost (and ultimately the total contribution requirement) should be trending slowly lower over the next decade as members in Tier I or in the Police I Pension Fund who terminate or retire are replaced by members in Tier II. We commend the City for continuing to meet its actuarial contribution requirements as dictated by the approved funding policy. If the City continues to meet those obligations, we anticipate the funded ratio will increase consistently over the next 24 years.

## IX. Certification

We certify that the information included herein and contained in this Actuarial Valuation Report is accurate and fairly presents the actuarial position of the City of Warwick, Rhode Island Police II Pension Fund as of the valuation date.

All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Joseph P. Newton and Paul T. Wood are Members of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries. Finally, both of the undersigned are experienced in performing valuations for large public retirement systems.

We are available to answer any questions in connection with this valuation of the plan or the information presented in this report.



Joseph P. Newton, FSA, EA, MAAA  
Senior Consultant



Paul T. Wood, ASA, FCA, MAAA  
Consultant

*J:/2386/2015/val/PoliceII/PoliceII\_Val2015.doc*

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## **TABLES**

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**Valuation Results**

|   | <u>July 1, 2015</u>   | <u>July 1, 2014</u>   |
|---|-----------------------|-----------------------|
| <b>A. Membership Data</b>   |                       |                       |
| 1. Active members   |                       |                       |
| a. Number   | 161                   | 166                   |
| b. Expected covered payroll<br>for fiscal year beginning<br>on valuation date | \$ 12,764,469         | \$ 12,212,862         |
| c. Average pay  | \$ 79,282             | \$ 73,571             |
| d. Average attained age   | 41.2                  | 40.3                  |
| e. Average past service   | 14.3                  | 13.3                  |
| 2. Retired members and beneficiaries  |                       |                       |
| a. Number   | 166                   | 161                   |
| b. Average benefit  | \$ 48,696             | \$ 47,710             |
| c. Average attained age   | 58.3                  | 57.5                  |
| 3. Inactive members (Vesting)   |                       |                       |
| a. Number   | 2                     | 3                     |
| b. Average benefit  | \$ 25,281             | \$ 21,595             |
| c. Average attained age   | 44.0                  | 43.9                  |
| <b>B. Liabilities</b>   |                       |                       |
| 1. Actuarial accrued liability  |                       |                       |
| a. Active members   | \$ 68,919,490         | \$ 62,963,860         |
| b. Retired members and beneficiaries  | 126,972,487           | 122,177,054           |
| c. Inactive members   | 817,742               | 1,016,819             |
| d. Total  | <u>\$ 196,709,719</u> | <u>\$ 186,157,733</u> |
| 2. Valuation assets   | \$ 175,253,154        | \$ 163,070,867        |
| 3. Unfunded actuarial accrued liability<br>[(1)(d)-(2)]                       | \$ 21,456,565         | \$ 23,086,866         |
| 4. Funded Ratio [(2)/(1)(d)]  | 89.09%                | 87.60%                |
| <b>C. Determination of City Contribution</b>                                  |                       |                       |
| 1. Normal cost  | \$ 4,056,963          | \$ 3,880,639          |
| 2. Amortization charges   | <u>\$ 1,385,106</u>   | <u>\$ 1,453,905</u>   |
| 3. Total annual contribution  | \$ 5,442,069          | \$ 5,334,544          |
| 4. Annual contribution as a percentage<br>of covered payroll [(3) / A(1)(b)]  | 42.63%                | 43.68%                |
| 5. Annual City contribution as a percentage<br>of payroll [2/3 x (4)]         | 28.42%                | 29.12%                |
| 6. Member contribution rate [(4) - (5)]                                       | 14.21%                | 14.56%                |
| a. Tier I Rate  | 14.75%                | 15.15%                |
| b. Tier II Rate   | 10.98%                | 11.38%                |

**Summary of Amortization Bases**

| <b>Date Established</b> | <b>Purpose</b>                         | <b>Initial Amount</b> | <b>Remaining Balance as of July 1, 2015</b> | <b>2015 - 2016 Amortization Payment *</b> | <b>Years Remaining as of July 1, 2015</b> |
|-------------------------|--|-----------------------|---|---|---|
| 7/14                    | Fresh Start, Offsetting of Prior Bases | \$ 23,086,866         | \$ 23,310,611                               | \$ 1,504,792                              | 24  |
| 7/15                    | Experience (Gain)/Loss                 | (1,854,046)           | <u>(1,854,046)</u>                          | <u>(119,686)</u>                          | 24  |
|                         | Total                                  |                       | \$ 21,456,565                               | \$ 1,385,106                              |   |

\* Assuming payment made at the middle of the year.

**Asset Information**  
**Composition of Fund as of June 30, 2015**

|                                    | <b>Market Value</b> | <b>Percentage<br/>of Total</b> |
|------------------------------------|---------------------|--------------------------------|
| 1. Cash and equivalents            | \$ 94,683           | 0.1%                           |
| 2. Equities, including index funds | 88,920,643          | 49.8%                          |
| 3. Fixed income investments        | 89,565,885          | 50.2%                          |
| 4. Receivables less payables       | <u>(166,074)</u>    | <u>-0.1%</u>                   |
| 5. Total                           | \$178,415,137       | 100.0%                         |

**Asset Information**  
**Asset Reconciliation and Expected Returns**

|                                   | FY 2012          | FY 2013          | FY 2014          | FY 2015          |
|-----------------------------------|------------------|------------------|------------------|------------------|
| 1. Beginning of year market value | 142,030,000      | 140,550,250      | 154,786,889      | 176,405,576      |
| 2. Contributions                  |                  |                  |                  |                  |
| a. City                           | 2,750,667        | 3,165,799        | 3,322,236        | 3,828,534        |
| b. Member                         | 1,375,334        | 1,582,900        | 1,661,118        | 1,914,267        |
| c. Total                          | <u>4,126,001</u> | <u>4,748,699</u> | <u>4,983,354</u> | <u>5,742,801</u> |
| 3. Benefits paid                  | (6,566,137)      | (7,220,137)      | (7,488,066)      | (7,768,947)      |
| 4. Net return                     | 960,386          | 16,708,077       | 24,123,399       | 4,035,707        |
| 5. End of year market value       | 140,550,250      | 154,786,889      | 176,405,576      | 178,415,137      |
| 6. Net market return              | 0.68%            | 11.99%           | 15.71%           | 2.30%            |
| 7. Expected market value          |                  |                  |                  |                  |
| a. Beginning of year              | 142,030,000      | 140,550,250      | 154,786,889      | 176,405,576      |
| b. Net cash flow                  | (2,440,136)      | (2,471,438)      | (2,504,712)      | (2,026,146)      |
| c. Earnings assumption            | 7.50%            | 7.50%            | 7.50%            | 7.50%            |
| d. Expected earnings              | 10,560,745       | 10,448,590       | 11,515,090       | 13,154,438       |
| e. Excess/(shortfall)             | (9,600,359)      | 6,259,487        | 12,608,309       | (9,118,731)      |

**Development of Valuation Value of Assets (Police II)**

|                       |   | <u>Year Ending<br/>June 30, 2015</u> |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|-----------------------|---|--------------------------------------|--|---------------------------------|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|--|-----|-----|-----------------|-----|-----------------|-----------------|------|--------------|-------------|------|---|------|------|------|-------------|-----------|---|---|---|---|------|-----------|-------------|---|---|---|---|------|------------|-------------|-----------|---|-----------|-----------|------|--------------------|------------------|----------|---|----------|----------|--|--------------|------|--------------|--|--------------|--------------|--|
| 1.                    | Market value of assets at beginning of year   | \$ 176,405,576                       |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 2.                    | Net new investments   |                                      |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|                       | a. Contributions  | \$ 5,742,801                         |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|                       | b. Benefits paid  | <u>(7,768,947)</u>                   |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|                       | c. Subtotal   | (2,026,146)                          |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 3.                    | Market value of assets at end of year   | \$ 178,415,137                       |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 4.                    | Net earnings (3-1-2)  | \$ 4,035,707                         |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 5.                    | Assumed investment return rate  | 7.50%                                |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 6.                    | Expected return   | \$ 13,154,438                        |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 7.                    | Excess return (4-6)   | \$ (9,118,731)                       |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 8.                    | Development of amounts to be recognized as of June 30, 2015:  |                                      |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|                       | <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Fiscal<br/>Year<br/>End</th> <th style="text-align: center;">Remaining Deferrals<br/>of Excess (Shortfall)<br/>of Investment Income</th> <th style="text-align: center;">Offsetting of<br/>Gains/(Losses)</th> <th style="text-align: center;">Net Deferrals<br/>Remaining</th> <th style="text-align: center;">Years<br/>Remaining</th> <th style="text-align: center;">Recognized for<br/>this valuation</th> <th style="text-align: center;">Remaining after<br/>this valuation</th> </tr> <tr> <th></th> <th style="text-align: center;">(1)</th> <th style="text-align: center;">(2)</th> <th style="text-align: center;">(3) = (1) + (2)</th> <th style="text-align: center;">(4)</th> <th style="text-align: center;">(5) = (3) / (4)</th> <th style="text-align: center;">(6) = (3) - (5)</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td style="text-align: right;">\$ 3,332,514</td> <td style="text-align: right;">(3,332,514)</td> <td style="text-align: right;">\$ 0</td> <td style="text-align: center;">1</td> <td style="text-align: right;">\$ 0</td> <td style="text-align: right;">\$ 0</td> </tr> <tr> <td>2012</td> <td style="text-align: right;">(3,840,144)</td> <td style="text-align: right;">3,840,144</td> <td style="text-align: right;">0</td> <td style="text-align: center;">2</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> </tr> <tr> <td>2013</td> <td style="text-align: right;">3,755,692</td> <td style="text-align: right;">(3,755,692)</td> <td style="text-align: right;">0</td> <td style="text-align: center;">3</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> </tr> <tr> <td>2014</td> <td style="text-align: right;">10,086,647</td> <td style="text-align: right;">(5,870,669)</td> <td style="text-align: right;">4,215,978</td> <td style="text-align: center;">4</td> <td style="text-align: right;">1,053,995</td> <td style="text-align: right;">3,161,983</td> </tr> <tr> <td>2015</td> <td style="text-align: right;"><u>(9,118,731)</u></td> <td style="text-align: right;"><u>9,118,731</u></td> <td style="text-align: right;"><u>0</u></td> <td style="text-align: center;">5</td> <td style="text-align: right;"><u>0</u></td> <td style="text-align: right;"><u>0</u></td> </tr> <tr> <td></td> <td style="text-align: right;">\$ 4,215,978</td> <td style="text-align: right;">\$ 0</td> <td style="text-align: right;">\$ 4,215,978</td> <td></td> <td style="text-align: right;">\$ 1,053,995</td> <td style="text-align: right;">\$ 3,161,983</td> </tr> </tbody> </table> | Fiscal<br>Year<br>End                | Remaining Deferrals<br>of Excess (Shortfall)<br>of Investment Income | Offsetting of<br>Gains/(Losses) | Net Deferrals<br>Remaining       | Years<br>Remaining                | Recognized for<br>this valuation | Remaining after<br>this valuation |  | (1) | (2) | (3) = (1) + (2) | (4) | (5) = (3) / (4) | (6) = (3) - (5) | 2011 | \$ 3,332,514 | (3,332,514) | \$ 0 | 1 | \$ 0 | \$ 0 | 2012 | (3,840,144) | 3,840,144 | 0 | 2 | 0 | 0 | 2013 | 3,755,692 | (3,755,692) | 0 | 3 | 0 | 0 | 2014 | 10,086,647 | (5,870,669) | 4,215,978 | 4 | 1,053,995 | 3,161,983 | 2015 | <u>(9,118,731)</u> | <u>9,118,731</u> | <u>0</u> | 5 | <u>0</u> | <u>0</u> |  | \$ 4,215,978 | \$ 0 | \$ 4,215,978 |  | \$ 1,053,995 | \$ 3,161,983 |  |
| Fiscal<br>Year<br>End | Remaining Deferrals<br>of Excess (Shortfall)<br>of Investment Income  | Offsetting of<br>Gains/(Losses)      | Net Deferrals<br>Remaining   | Years<br>Remaining              | Recognized for<br>this valuation | Remaining after<br>this valuation |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|                       | (1)   | (2)                                  | (3) = (1) + (2)  | (4)                             | (5) = (3) / (4)                  | (6) = (3) - (5)                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 2011                  | \$ 3,332,514  | (3,332,514)                          | \$ 0   | 1                               | \$ 0                             | \$ 0                              |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 2012                  | (3,840,144)   | 3,840,144                            | 0  | 2                               | 0                                | 0                                 |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 2013                  | 3,755,692   | (3,755,692)                          | 0  | 3                               | 0                                | 0                                 |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 2014                  | 10,086,647  | (5,870,669)                          | 4,215,978  | 4                               | 1,053,995                        | 3,161,983                         |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 2015                  | <u>(9,118,731)</u>  | <u>9,118,731</u>                     | <u>0</u>   | 5                               | <u>0</u>                         | <u>0</u>                          |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
|                       | \$ 4,215,978  | \$ 0                                 | \$ 4,215,978   |                                 | \$ 1,053,995                     | \$ 3,161,983                      |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 9.                    | Actuarial value of assets as of June 30, 2015 (Item 3 - Item 8)   | \$ 175,253,154                       |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |
| 10.                   | Ratio of actuarial value to market value  | 98.2%                                |  |                                 |                                  |                                   |                                  |                                   |  |     |     |                 |     |                 |                 |      |              |             |      |   |      |      |      |             |           |   |   |   |   |      |           |             |   |   |   |   |      |            |             |           |   |           |           |      |                    |                  |          |   |          |          |  |              |      |              |  |              |              |  |

\*Values of \$0 result from the beginning balance being offset by future gains or losses in the opposite direction.

**Distribution of Active Members by Age and by Years of Service (Police II)  
 As of July 1, 2015**

| Attained<br>Age | Years of Credited Service |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | Total<br>Count &<br>Avg. Comp. |
|-----------------|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------------|
|                 | 0                         | 1                     | 2                     | 3                     | 4                     | 5-9                   | 10-14                 | 15-19                 | 20-24                 | 25-29                 | 30-34                 | 35 & Over             |                                |
|                 | Count &<br>Avg. Comp.     | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. | Count &<br>Avg. Comp. |                                |
| Under 25        | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0                       |
| 25-29           | 0<br>\$0                  | 2<br>\$48,743         | 3<br>\$53,935         | 3<br>\$66,034         | 6<br>\$67,766         | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 14<br>\$61,714                 |
| 30-34           | 1<br>\$40,209             | 2<br>\$50,861         | 2<br>\$56,337         | 5<br>\$60,998         | 2<br>\$74,706         | 9<br>\$76,496         | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 21<br>\$66,546                 |
| 35-39           | 0<br>\$0                  | 0<br>\$0              | 1<br>\$58,487         | 2<br>\$63,725         | 0<br>\$0              | 4<br>\$69,930         | 19<br>\$80,898        | 1<br>\$82,503         | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 27<br>\$77,230                 |
| 40-44           | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 3<br>\$75,328         | 18<br>\$76,504        | 22<br>\$88,179        | 1<br>\$98,204         | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 44<br>\$82,755                 |
| 45-49           | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 2<br>\$75,962         | 4<br>\$79,494         | 12<br>\$80,376        | 9<br>\$92,476         | 2<br>\$99,749         | 0<br>\$0              | 0<br>\$0              | 29<br>\$85,041                 |
| 50-54           | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 6<br>\$87,782         | 4<br>\$85,321         | 9<br>\$80,842         | 2<br>\$88,179         | 0<br>\$0              | 21<br>\$84,377                 |
| 55-59           | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 3<br>\$93,251         | 0<br>\$0              | 0<br>\$0              | 3<br>\$93,251                  |
| 60-64           | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 1<br>\$125,058        | 0<br>\$0              | 1<br>\$125,058                 |
| 65 & Over       | 0<br>\$0                  | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 1<br>\$133,674        | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 0<br>\$0              | 1<br>\$133,674                 |
| Total           | 1<br>\$40,209             | 4<br>\$49,802         | 6<br>\$55,494         | 10<br>\$63,054        | 8<br>\$69,501         | 18<br>\$74,782        | 41<br>\$78,832        | 42<br>\$86,841        | 14<br>\$90,841        | 14<br>\$86,202        | 3<br>\$100,472        | 0<br>\$0              | 161<br>\$79,282                |

**History of Investment Return Rates**

| Year Ending<br>June 30 of<br>(1) | Market<br>(2) |
|----------------------------------|---------------|
| 2000                             | 17.19%        |
| 2001                             | -13.52%       |
| 2002                             | -3.93%        |
| 2003                             | 5.22%         |
| 2004                             | 15.04%        |
| 2005                             | 9.49%         |
| 2006                             | 8.73%         |
| 2007                             | 15.65%        |
| 2008                             | -4.92%        |
| 2009                             | -16.26%       |
| 2010                             | 14.16%        |
| 2011                             | 22.24%        |
| 2012                             | 0.68%         |
| 2013                             | 11.99%        |
| 2014                             | 15.71%        |
| 2015                             | 2.30%         |
| Average Returns:                 |               |
| Last 5 Years                     | 10.29%        |
| Last 10 Years                    | 6.18%         |

**Near Term Outlook**

| Valuation as of July 1, | Unfunded Actuarial Accrued Liability (UAAL) | Funded Ratio | Market Value of Fund (in 000s) | For Fiscal Year Ending June 30, | Employer Contribution Rate | Covered Compensation | Employer Contributions | Employee Contributions | Benefit Payments and Refunds | Net External Cash Flow |
|-------------------------|---|--------------|--------------------------------|---------------------------------|----------------------------|----------------------|------------------------|------------------------|------------------------------|------------------------|
| (1)                     | (2)   | (3)          | (4)                            | (5)                             | (6)                        | (7)                  | (8)                    | (9)                    | (10)                         | (11)                   |
| 2015                    | \$ 21,456,574                               | 89.1%        | \$ 178,415,137                 | 2016                            | 29.1%                      | \$ 12,764,469        | \$ 3,717,013           | \$ 1,858,507           | \$ 8,722,107                 | \$ (3,146,587)         |
| 2016                    | 19,970,914                                  | 90.3%        | 188,531,688                    | 2017                            | 28.4%                      | 13,022,935           | 3,701,118              | 1,850,559              | 9,391,290                    | (3,839,613)            |
| 2017                    | 18,488,249                                  | 91.4%        | 198,687,966                    | 2018                            | 27.6%                      | 13,281,754           | 3,669,749              | 1,835,538              | 10,096,033                   | (4,590,746)            |
| 2018                    | 17,032,107                                  | 92.5%        | 208,826,664                    | 2019                            | 26.8%                      | 13,573,123           | 3,640,312              | 1,820,156              | 10,810,601                   | (5,350,133)            |
| 2019                    | 16,669,225                                  | 92.9%        | 218,937,901                    | 2020                            | 26.0%                      | 13,909,111           | 3,613,587              | 1,806,794              | 11,521,050                   | (6,100,670)            |
| 2020                    | 16,353,002                                  | 93.3%        | 229,028,798                    | 2021                            | 25.5%                      | 14,289,182           | 3,645,170              | 1,823,300              | 12,274,829                   | (6,806,359)            |

These projections are based on the current funding policy and assumes that all current assumptions are met each year in the future.



**Schedule of Funding Progress**

| Date         | Actuarial Value<br>of Assets (AVA) | Actuarial Accrued<br>Liability (AAL) | Unfunded Actuarial                    |                         | Annual<br>Payroll | UAAL as % of<br>Payroll (4)/(6) |
|--------------|------------------------------------|--------------------------------------|---------------------------------------|-------------------------|-------------------|---------------------------------|
|              |                                    |                                      | Accrued Liability<br>(UAAL) (3) - (2) | Funded Ratio<br>(2)/(3) |                   |                                 |
| (1)          | (2)                                | (3)                                  | (4)                                   | (5)                     | (6)               | (7)                             |
| July 1, 2009 | \$137,152,325                      | \$ 139,554,358                       | \$ 2,402,033                          | 98.3%                   | \$13,099,942      | 18.3%                           |
| July 1, 2011 | 140,644,601                        | 162,563,786                          | 21,919,185                            | 86.5%                   | 11,082,010        | 197.8%                          |
| July 1, 2013 | 147,587,524                        | 182,130,783                          | 34,543,259                            | 81.0%                   | 11,822,199        | 292.2%                          |
| July 1, 2014 | 163,070,867                        | 186,157,733                          | 23,086,866                            | 87.6%                   | 12,212,862        | 189.0%                          |
| July 1, 2015 | 175,253,154                        | 196,709,719                          | 21,456,565                            | 89.1%                   | 12,764,469        | 168.1%                          |

### **Actuarial Methods and Assumptions**

|                                |   |
|--------------------------------|---|
| <b>Actuarial Cost Method:</b>  | <i>Entry Age Normal actuarial cost method:</i> Under this method, the normal cost is the amount calculated as the level percentage of pay necessary to fully fund each active member’s prospective benefit from entry age to retirement age. The total actuarial accrued liability, which is re-determined for each individual member as of each valuation date, represents the theoretical accumulation of all prior years’ normal costs for the active members as if the present plan had always been in effect, plus the liability for any retirees or beneficiaries. The unfunded actuarial accrued liability represents the excess of the total actuarial accrued liability over the valuation assets. |
| <b>Amortization Policy:</b>    | The amortization of the UAAL is determined as a level percentage of payroll over a closed period using the process of “laddering”. Bases that existed prior to this valuation continue to be amortized on their original schedule. New experience losses are amortized over individual periods of 30 years. New gains are offset against and amortized over the same period as the current largest outstanding loss which in turn decreases contribution rate volatility.   |
| <b>Asset Valuation Method:</b> | The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.  |

**Actuarial Assumptions:**

1. *Interest* 7.50% per year, net of investment and administrative expenses.
2. *Salary Increases* The sum of (i) a 4.00% wage inflation assumption (composed of a 2.75% price inflation assumption and a 1.25% additional general increase), and (ii) a service-related component as shown below:

| Police/Fire Employees |                           |                |
|-----------------------|---------------------------|----------------|
| Years of Service      | Service-Related Component | Total Increase |
| 1                     | 10.00%                    | 14.00%         |
| 2                     | 9.00                      | 13.00          |
| 3                     | 7.00                      | 11.00          |
| 4                     | 4.00                      | 8.00           |
| 5                     | 2.50                      | 6.50           |
| 6                     | 3.00                      | 7.00           |
| 7                     | 0.50                      | 4.50           |
| 8                     | 0.50                      | 4.50           |
| 9 or more             | 0.00                      | 4.00           |

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. For employees with less than one year of service, the reported rate of pay is used rather than the fiscal year salary paid.

**3. Mortality**

A. Pre-retirement mortality (combined ordinary and duty):

- a. Male employees: 115% of the RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA.
- b. Female employees: 95% of the RP-2000 Combined Healthy for Females with White Collar adjustments, projected with Scale AA.
- c. Disabled males – 60% of the PBGC Table Va for disabled males eligible for Social Security disability benefits.
- d. Disabled females – 60% of the PBGC Table VIa for disabled females eligible for Social Security disability benefits.

B. Pre-retirement mortality (combined ordinary and duty):

- a. Male employees: 75% of RP-2000 Combined Healthy for Males with White Collar adjustments.
- b. Female employees: 75% of RP-2000 Combined Healthy for Females with White Collar adjustments.

Sample rates are shown below:

| Number of Deaths per 100 |       |         |
|--------------------------|-------|---------|
| Age                      | Males | Females |
| 25                       | 0.03  | 0.02    |
| 30                       | 0.03  | 0.02    |
| 35                       | 0.04  | 0.03    |
| 40                       | 0.07  | 0.05    |
| 45                       | 0.10  | 0.08    |
| 50                       | 0.15  | 0.12    |
| 55                       | 0.25  | 0.19    |
| 60                       | 0.42  | 0.35    |
| 65                       | 0.83  | 0.65    |
| 70                       | 1.45  | 1.14    |

**4. Disability**

Sample rates per 1,000 active members are shown below. Ordinary disability rates are not applied to members eligible for retirement.

| Age | Number of Disabilities per 1,000 |                               |
|-----|----------------------------------|-------------------------------|
|     | Ordinary, Males and Females      | Accidental, Males and Females |
| 25  | 0.26                             | 2.55                          |
| 30  | 0.33                             | 3.30                          |
| 35  | 0.44                             | 4.35                          |
| 40  | 0.66                             | 6.60                          |
| 45  | 1.08                             | 10.80                         |
| 50  | 1.82                             | 18.15                         |
| 55  | 1.82                             | 18.15                         |
| 60  | 1.82                             | 18.15                         |
| 65  | 1.82                             | 18.15                         |

**5 . Termination:**

Termination rates (for causes other than death, disability, or retirement) are a function of the member’s service. Termination rates are not applied to members eligible for retirement. Rates are shown below:

| Service | Termination Rate | Service | Termination Rate |
|---------|------------------|---------|------------------|
| 1       | 0.100000         | 11      | 0.012761         |
| 2       | 0.047300         | 12      | 0.011332         |
| 3       | 0.036903         | 13      | 0.010026         |
| 4       | 0.030821         | 14      | 0.008826         |
| 5       | 0.026506         | 15      | 0.007714         |
| 6       | 0.023158         | 16      | 0.006679         |
| 7       | 0.020424         | 17      | 0.005711         |
| 8       | 0.018111         | 18      | 0.004802         |
| 9       | 0.016108         | 19      | 0.003944         |
| 10      | 0.014342         | 20+     | 0.000000         |

6. **Retirement Age** Rates of retirement are based on an employee’s length of service, as follows:

| Police II Members |                     |
|-------------------|---------------------|
| Service           | Retirement Election |
| 25                | 50.0%               |
| 26                | 16.0%               |
| 27                | 18.0%               |
| 28                | 20.0%               |
| 29                | 20.0%               |
| 30+               | 35.0%               |

7. **Benefit and Compensation Limits** Benefit limits under Section 415 and compensation limits under Section 401(a)(17) of the Internal Revenue Code are assumed to have no impact on benefits earned under this plan.
8. **Marriage / Dependents** 80% of active employees are assumed to be married at retirement or death, with two children ages 11 and 13. Wives are assumed to be three years younger than their husbands. No remarriage is assumed.
9. **Service Purchase** None assumed.
10. **Administrative and Investment Expenses** None. The 7.50% investment return assumption represents the assumed return net of all investment and administrative expenses.

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### Outline of Principal Plan Provisions

1. **Effective Dates:**
  - a. Original Plan February 1, 1971.
  - b. Most Recent Amendment July 1, 1991.
2. **Eligibility:** All permanent members of the police department appointed on or after February 1, 1971.
3. **Tier:** Members who hire by June 30, 2012 are in Tier I, while members who join later are in Tier II.
4. **Final Average Salary(FAC):** Tier I: Salary received in the highest year of creditable service.  
Tier II: Average of the salaries received in the last three years of creditable service.  
For pension purposes, annual salary includes regular, holiday, and longevity pay.
5. **Retirement:**
  - a. Eligibility Tier I: Members who have completed 20 years of service may retire.  
Tier II: Members attain age 50 or older and with at least 25 years of service may retire.
  - b. Benefit Formula Tier I: The annual benefit at retirement is equal to 50% of annual salary at retirement, plus 2% of annual salary for each year of service between 20 and 25, plus 3% of annual salary for each year of service between 25 and 30.  
Tier II: 2% of FAC times years of service.
  - c. Maximum Benefit Tier I: 75% of FAC.  
Tier II: 70% of FAC.
  - d. Commencement Date Retirement benefits commence as of the first payroll period after retirement.
  - e. Form of Payment The annual benefit calculated in accordance with the formula in (b) above is payable semi-monthly for the remainder of the retired member's life, with 67.5% of the member's benefit payable for the lifetime of his surviving spouse.

**6. Vested Termination:**

- |                      |   |
|----------------------|---|
| a. Eligibility       | Upon termination of employment after 10 years of service a member is eligible for a benefit deferred to retirement age. |
| b. Benefit Formula   | 2.5% of annual salary multiplied by full years of service at termination.   |
| c. Commencement Date | Benefits commence as of normal retirement age.  |
| d. Form of Payment   | Same as retirement.   |

**7. Disability Retirement:**

- |                      |   |
|----------------------|---|
| a. Eligibility       | A member who is unable to perform active duty as a result of disability which the Board of Public Safety finds to be permanently incapacitating is eligible to receive disability retirement benefits.  |
| b. Benefit Formula   | <u>Service Related</u> For <u>Tier I</u> members, the benefit would be equal to 66-2/3% of highest annual salary, reduced for each dollar of earned income in excess of the salary the member would earn as an active employee, to a minimum of 50% of salary. For <u>Tier II</u> members, the benefit would initially be the same, but once the member reached 25 years of service, including service while disabled, the benefit would be converted to a regular retirement benefit. (The age 50 minimum for retirement would not apply to this benefit.)<br><br><u>Non-Service Related</u> 50% of highest annual salary. |
| c. Commencement Date | Benefits commence as of the first payroll period after disability.  |
| d. Form of Payment   | Same as retirement.   |

**8. Non-vested Termination of Employment:**

A member who leaves employment prior to completing 10 years of service will receive a lump sum payment of his accumulated contributions without interest.



**9. Death Before Retirement**  
**-- Survivor Annuity**  
**Benefits**

- |                                  |   |
|----------------------------------|---|
| a. Eligibility                   | Death while actively employed.  |
| b. Benefit Formula               |   |
| (1) Surviving spouse             | <u>Service Related.</u> The annual benefit is 50% of the deceased member's highest annual salary, payable to the surviving spouse until death or earlier remarriage.                              |
|                                  | <u>Non-Service Related.</u> 30% of the deceased member's highest annual salary, payable to the surviving spouse until death or earlier remarriage.  |
| (2) Surviving children           | 10% of the deceased member's highest annual salary, payable to each surviving child until his 18th birthday (or for life if such child becomes permanently disabled prior to the member's death). |
| (3) Maximum family death benefit | <u>Service Related.</u> 75% of deceased's highest annual salary.  |
|                                  | <u>Non-Service Related.</u> 50% of deceased's highest annual salary.  |
| c. Commencement Date             | Benefits commence as of the first payroll period after death.   |
| d. Form of Payment               | Surviving spouse's and children's benefits are payable semi-monthly.  |

**10. Death Before Retirement**  
**-- Lump Sum Refund of**  
**Contributions**

A lump sum payment equal to the member's accumulated contributions without interest shall be paid to the estate of any active member who dies with no surviving spouse or children.

**11. Retiree Cost-of-Living Increases**

Tier I: All benefits in pay status are increased by 3% annually.  
Tier II: All benefits in pay status are increased by 75% of CPI, annual cap of 3%.

**12. *Service Purchase***

For Tier I member, an active employee eligible to retire who has served in the U.S. armed forces may "purchase" additional years of service up to his number of years of military service, but no more than four years. A member may also purchase up to four years of prior civilian employment time with the City of Warwick. Either purchase would require the employee to contribute to the fund, at retirement, an additional year's contribution (at the then current contribution percentage) for each year of service purchased. However, the right to buy municipal service would be eliminated for Tier II members.

**13. *Employee Contributions***

Members contribute a percentage of their covered earnings (regular, holiday, and longevity) equal to one third of the actuarially determined contribution rate.